



Trans-European Networks (TEN)

- A Converging Strategy for Innovation
- The CEF Innovation Calls
- H2 for Europe

Hydrogen Transport Summit

- Towards clean public transport with H2

***Exhibition & Conference Centre
Aberdeen
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Helmut Morsi, Adviser to the Director

European Commission, DG MOVE

Directorate B – Investment, Innovative & Sustainable Transport



● The Separate Elements of the Strategy

- TEN-T/CEF-T Innovation Deployment
 - » Green Paper 2009: A new concept – market sided innovation
 - » Piloting Scheme under previous legal base: 2010-13
 - » New legal base TEN-T Guidelines Art.33 & CEF: 2014ff
- RTD: FP7 / H2020 funding of research & demos (mainly)
- Alternative Fuels Infrastructure Directive 2014: Standards & Roll-out Plan for End 2016
- CEF->EFSI (Juncker) Facilitating private investments 2015
- European Strategy for Low-emission Mobility 7/2016
- CEF Synergy Call (transport & energy): 9/2016
- CEF Blending – grant & loan in one application 2/2017
- Renewable Energy Directive (rev)

● The Strategy : Converging the separate elements (1)

- Convergence 1: **Topic** : TEN-T/CEF-T Deployment complementing RTD / FP7 / H2020
 - » Creation of specific project pipelines research-demos-trials-rollouts for transport bringing together H2020 & CEF
 - » Examples: BEV & FCH & Gas (incl. LNG)
- Convergence 2: **Finance** : Real-life trials preparing business plans for roll-outs by EFSI / Juncker / private investment / **new: blending call**
 - » Concept of Market-sided innovation perfectly matching EFSI et al
 - » Examples: FCH buses, Green Shipping Scheme



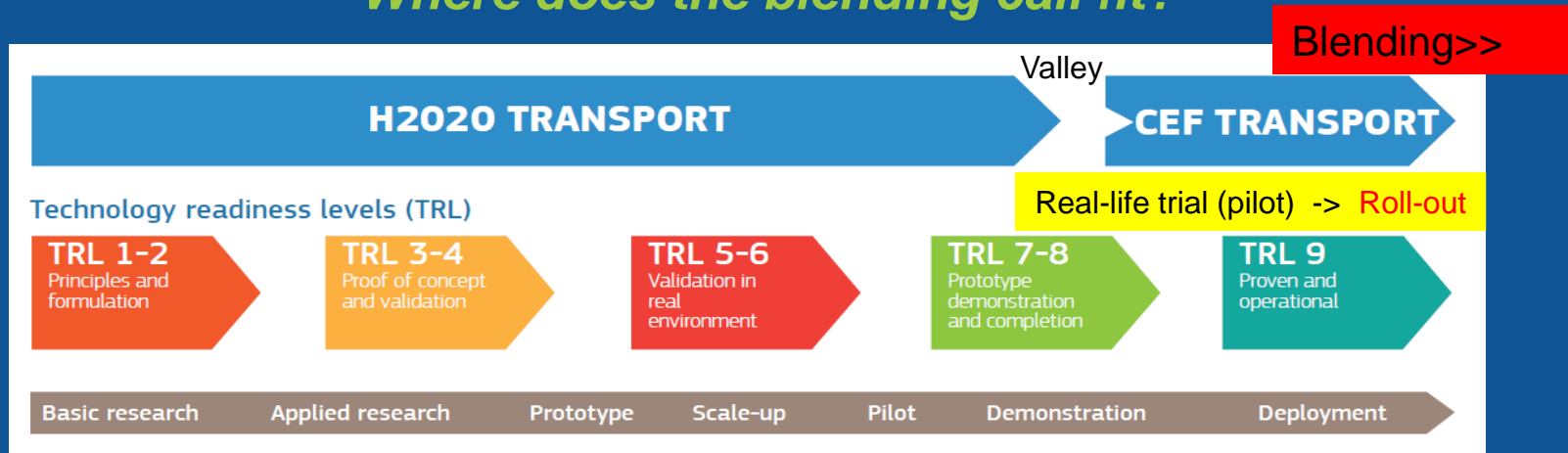
● The Strategy : Converging the separate elements (2)

- Convergence 3: **Planning** : Roll-out plans of alt. Fuels Directive encourage alignment of national planning with already funded alt.fuel infrastructure
- Convergence 4: **Impact** : CEF Funding prioritising Core Network Corridors achieving benefits of particular high EU added value for citizens
- Convergence 5: **Sectors** : Hydrogen promoting transport & energy networks joining in *synergetic* way



Overall Funding Pipeline

- *Where does the blending call fit?* -



Need now follow-ons for trials/pilots = **Roll-outs** / works

● CEF Calls – An Overview

● Synergy Call 28 Sep'2016 – *now closed; - repeated?*

- » Info Day 10 Oct. (virtuel only) - Deadline 13 Dec 2016 – 14-9 : great!
- » Next synergy call: depends on legislative discussions with MS & EP
- » Some possibilities: "Just" repetition with improved WP & call texts? Reallife trials (60%) & works (30%)? Scope – all 3 CEF sectors? Budget?
- » Possible impact on next financial framework (2021 – 27):
Sectorial synergy as the future big policy?
- Preparation starts autumn 2017 already!

● Transport Calls 13 Oct'2016 (about €2 billion in total) – *now closed; - repeated?*

- » Grants only

● Transport Blending Call - *Turning the page!*

- » Combination grant & loans: for works, e.g. innovation (grant: up to 20%)
- » Mobile equipment (vehicles) – **fully eligible!!!**
- » Call on 8 Feb 2017; Deadlines **14 July** (& 30 Nov)
- » Coordinated selection, but still complex.

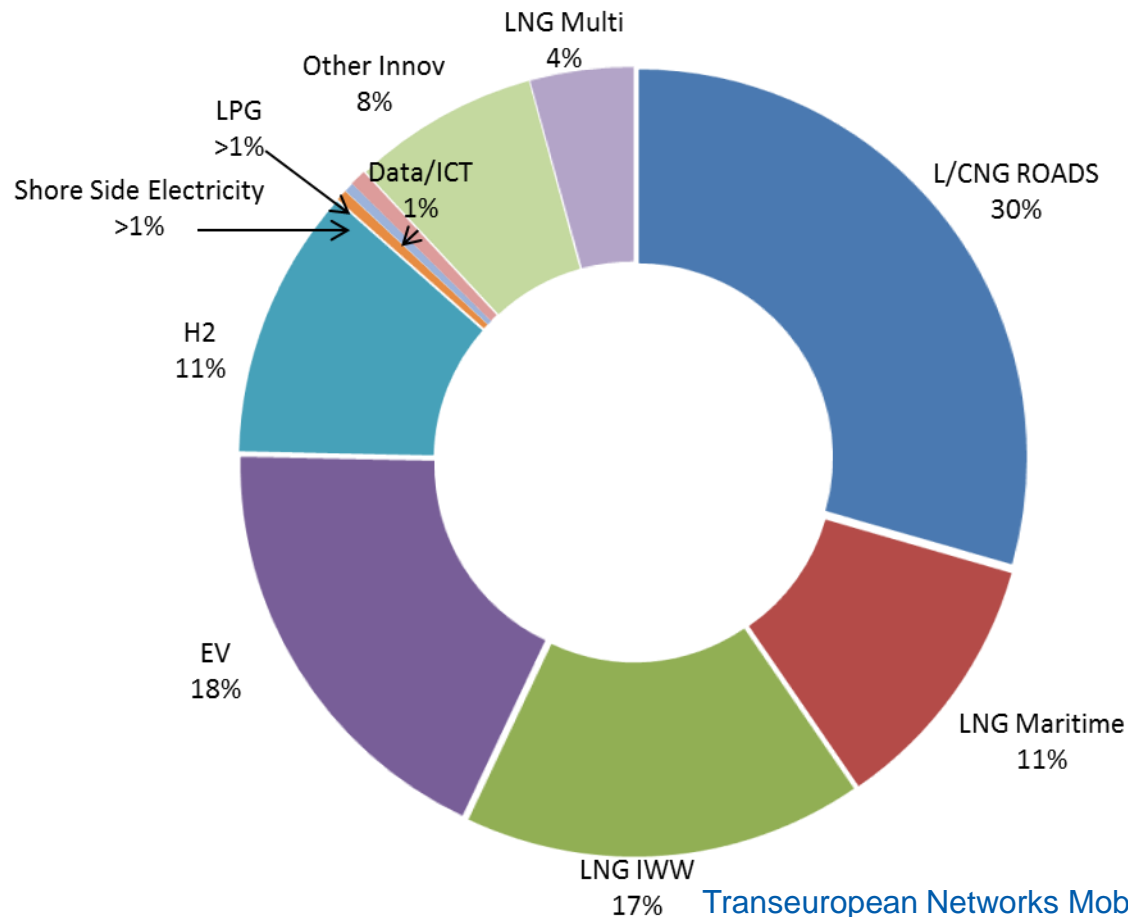


● The Future is Synergetic: *Breaking-up Silos*

- *The time is ripe: Example CEF-EFSI FCH bus roll-out*
 - » *CEF & H2020/FCH-JU Real-life trials follow-on; Econo H2 RefuellingInfra & JIVE -> 8 stations plus 80 buses*
 - » *Follow-on: 520 busses in about 40 cities which signed Buyers' Declaration (TEN-T days June 2015: First EFSI loan signed with Riga 12/2016 – **Cleaner Busses Scheme***
 - » Indicator 1: energy & transport companies as key partners in the CEF grant agreement
Indicator 2: H2 hubs for adequate energy buffer/supply for grid and transport (road, rail, shipping "**The 1T+ H2 station**")
 - » ***CEF synergy projects (grid balancing & 1t+ coming up!)** + H2 as an ideal energy storage, especially for dis-continuous energy sources (wind, solar)*
- The race to find a good business plan is ongoing *world-wide*
 - » Sustainable transport & energy
 - » In addition: Greening urban nodes -> energy for buildings (only indirectly in synergy call)
 - » Fighting climate change and bad air quality
 - » *....and keeping/creatng **jobs in production** (& services)*

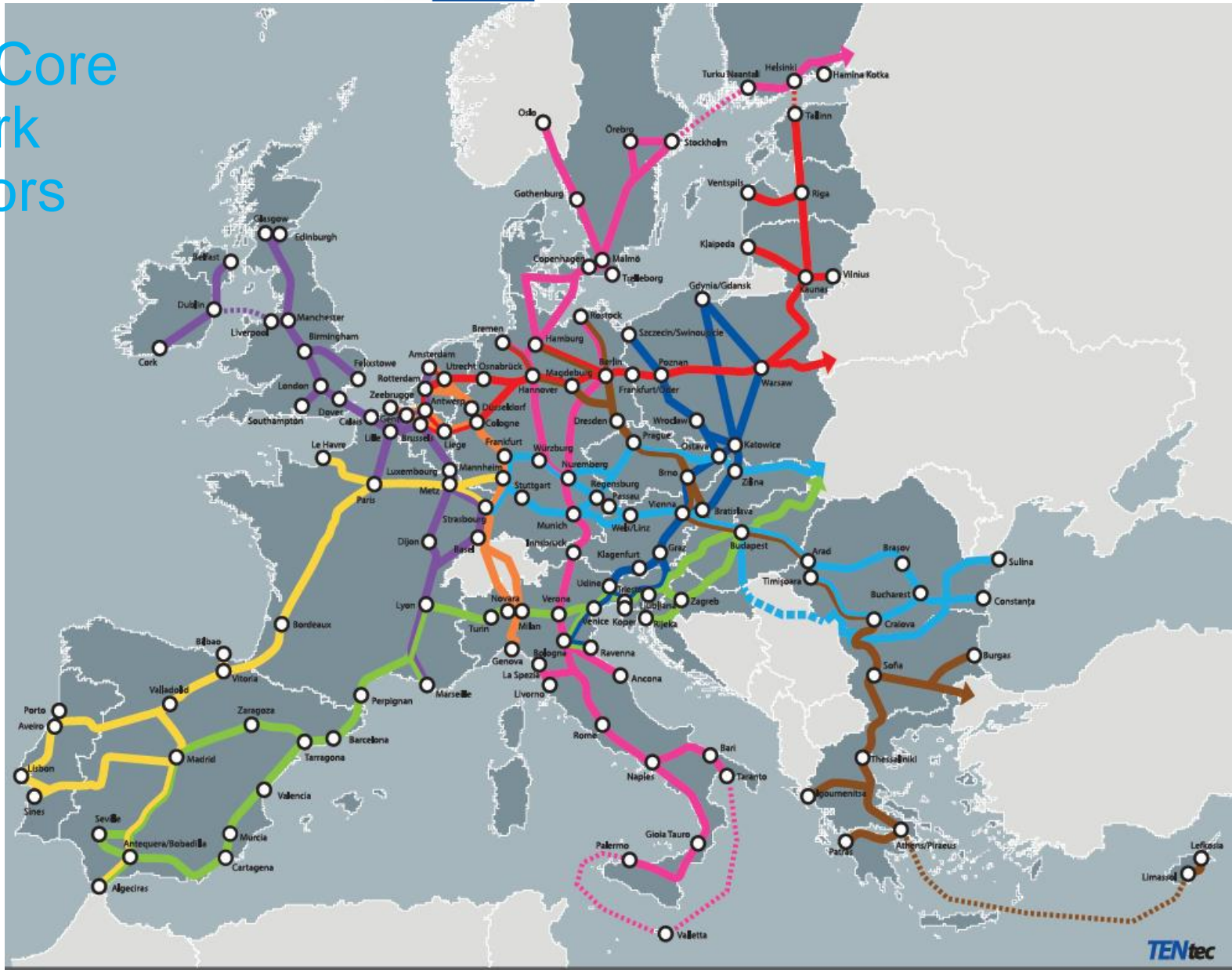
A great chance not be missed!

● Projects financed under the innovation priority by TEN-T and CEF Programmes (2010-16)





The 9 Core Network Corridors



Milestone Projects need Milestone People

Milestone Projects on Alternative Fuels

– all market-sided innovation concept for new tech deployment (focus on unit costs & clients):

- Greening EU Transport 2010 – Battery Swapping (DK) – Amit Yudan
- eCars 2011 – Fast charging as minimum coverage of entire MS (IE) – Senan McGrath.
- Greencranes 2011 – Innovation in ports incl. LNG tractors (ES, IT, SI) – Eva Perez-Garcia / Jose Jimenez
- GARneT 2012 – LNG for trucks / mobile LNG stations (ES) – Gas Natural
- HIT 2012 & HIT2 2013 – Hydrogen infra in several MS (NL, FR, DK, SE, BE, FI, LV, PL) – Marieke Reijalt / Floris Mulder & Geert Schaap / Cecilia Wallmark
- LNG Masterplan Rhein-Main-Danube 2012 – IWW innovation (13 MS across EU) – Manfred Seitz
- BioLNG for Heavy Vehicles – Very large LNG refueling stations at logistic centres in the UK – Gasrec Ltd's industrialising LNG for the road – Patrick Mocatta / Rob Wood
- RCN 2013 – Systematic rapid charging in UK and IE along 2 TEN-T Priority Projects 13 & 26 (now North-Sea-Med corridor) – Olivier Paturet
- Central EU Green Corridors 2013 – First time cohesion countries implemented significant fast charging (AT, CR, SK, SI, DE) – Jan Cupal / Eva Plunger / Amit Yudan
- H2 Nodes 2014 – Hydrogen infra reaches Baltic States (LV, EE, NL) – Aivars Starikovs
- Fast-E 2015 – 300 Fast chargers along corridors in several MS east&west (BE, DE, SK, CZ, HR) – Markus Groll / Jörg Lohr / Radoslav Marcus / Amit Yudan
- GREAT 2015 – Combining all alt.fuels H2-BEV-C/LNG (DE, DK, SE) – Britt Karlsson-Green / Christian Hallelov / Jakob Lagercrantz
- NCE FastEvNet – 85 Fast charging stations; 3 with battery storage along 4 corridors (SK, PL) - Peter Badik
- Breakthrough LNG in Intl. Waterways – Prepare large scale roll-out of 300 LNG vessels along Rhine++ (NL, DE) – Khalid Tachi
- Economic H2 Refuelling Infrastructure 2016 – Initiating refuelling infrastructure, triggering a 600 FCH bus fleet in the EU (start 80 buses: UK, NL, DE, IT) – Ben Madden – then 520 in 2 years via EFSI (first EFSI loan signed by Riga (LV) 11/2016
- PAN-LNG-4-Danube 2016 - Multi-mode LNG trial – IWW, road & rail - infra & vehicles in HU – Henrik Domanovszky
- Ultra-E 2016 – First Ultra chargers along corridors in several MS – Anja van Nielsen / Marcus Groll / Jörg Lohr / Amit Yudan

● Milestone Projects need Milestone People

Must further accelerate – Absolutely need (affordable) alternative fuel vehicles (incl. vessels) of all sizes using the stations!

- *Towards Sustainable transport –*
- *Fighting climate change -*
- *Production remaining in Europe -*

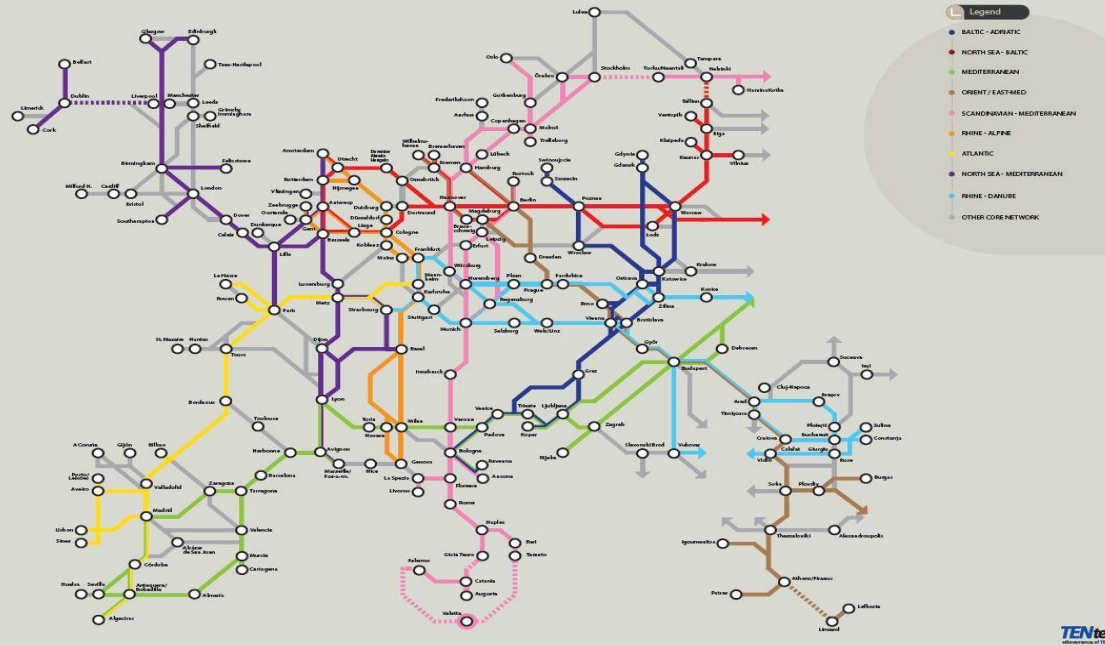
Don't be modest, be bold!

...supported all the way by the EC.



THE TEN-T CORE NETWORK AND CORRIDORS

SCHEME (RAILWAYS & BALANDWATERWAYS BASED ON THE OUTCOME OF THE INFORMAL TRILOGUE OF 27th JUNE 2013)



THANK YOU FOR YOUR ATTENTION!

Helmut Morsi - DG MOVE

Adviser to Director MOVE B "Investment, Innovative & Sustainable Transport"
Coordinator for "Innovation & IT/TENtec"

Inno. Projects at: <http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/innovation.html>

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